

**Poultry Waste Generation and Land Application in the Illinois River Watershed  
and  
Phosphorus Loads to the Illinois River Watershed Streams and Rivers and Lake  
Tenkiller**

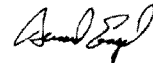
**Expert Report of Dr. B. Engel**

**For  
State of Oklahoma  
In Case No. 05-CU-329-GKF-SAJ**

**State of Oklahoma v. Tyson Foods, et al.  
(In the United States District Court for the Northern District of Oklahoma)**

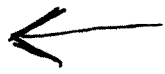
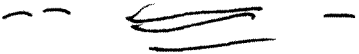
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**May 22, 2008**



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2004). A P routing model was created for each gauging location used in the modeling effort (Tablequah, Baron Fork near Eldon, and Caney Creek). The equations were of the form:

$$P \text{ Load} = a + b * Q * P \text{ Accumulation} + c * Q^2 * P \text{ Accumulation}$$


Where P Load is a daily P load in lbs

a, b, and c are coefficients obtained during equation development

Q is average daily flow rate at USGS gauge

P Accumulation is computed P accumulated in the stream or river